

# Uniden®



## PRO 510XL Professional Mobile CB Radio

# INTRODUCTION

Welcome to the world of Citizens Band radio communications. Your Uniden

The PRO510 radio is an advanced mobile radio designed for use in the Citizens Band (CB) Radio Service. It will operate on any of the 40 AM frequencies authorized by the Federal Communications Commission (FCC). Your Radio features a superheterodyne circuit with PHASE LOCKED LOOP techniques to assure precise frequency control.

## **WARNING**

This radio has been type accepted and certified by the FCC for CB Radio Service operation. Any adjustments or alterations which might alter the performance of the transceiver or the method of determining frequency are strictly prohibited.

If you replace or substitute any unique parts (including crystals, transistors, IC's, regulator diodes, etc.) with parts other than those recommended by Uniden, you may be in violation of FCC technical regulations (in Part 95) or type acceptance requirements (in Part 2) of the FCC rules.

## **CB license requirement**

U.S. users no longer need to apply for a license to use a CB radio. However, CB radio is still considered a "license by rule" service. This means that, while the FCC permits CB station operation without station identification, station operators are still required to comply with the Communications Act and with the rules of CB Radio Service. (For more information on U.S. radio rules, visit the FCC website at [www.fcc.gov](http://www.fcc.gov).)

## **Uniden contact information**

---

*You can get answers 24/7 at our website: [www.uniden.com](http://www.uniden.com).*

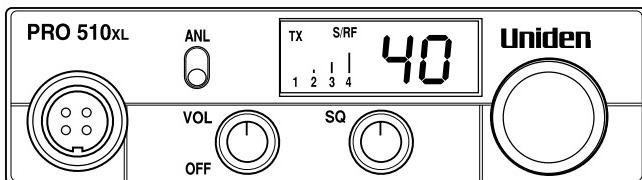
---

| If You                                      | Contact Uniden's        | Phone                          |
|---------------------------------------------|-------------------------|--------------------------------|
| have a question or problem                  | Customer Care Line*     | 800-297-1023                   |
| need a part or accessory                    | Parts Department*       | 800-554-3988                   |
| need special assistance due to a disability | Accessibility Help Line | 800-874-9314<br>(voice or TTY) |

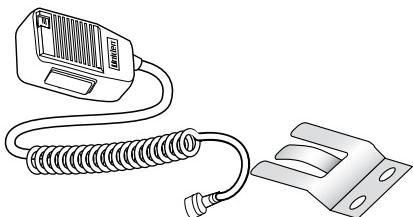
\*During regular business hours, Central Standard Time. Visit our website for detailed business hours.

## INCLUDED IN YOUR PACKAGE

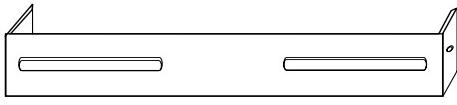
If any of these items are missing or damaged, immediately contact your place of purchase or Uniden's Parts Department.



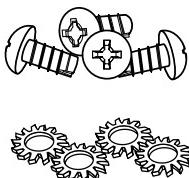
**PRO510 XL Mobile radio**



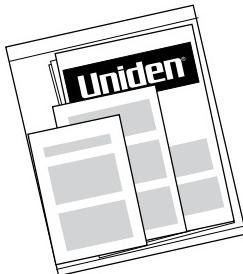
**Microphone and hook**



**Mounting bracket and knobs**



**Mounting hardware**



**Other printed materials**

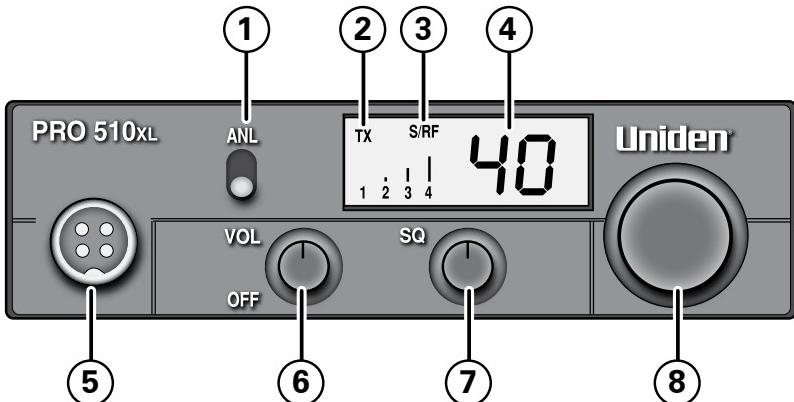
---

*NOTE: You must use a CB antenna (sold separately) with this radio.*

---

# PARTS OF THE RADIO

## Front



### 1. ANL Switch

Activates the Automatic Noise Limiter feature, which reduces background noise from the car engine and other sources.

### 2. TX LED

Indicates when the radio is transmitting.

### 3. S/RF (Signal/RF) Meter

Shows the strength of the received signal or the RF output.

### 4. Channel Indicator

Displays the channel currently in use.

### 5. Microphone Jack

Connects to the included detachable electret microphone.

### 6. Volume Control

Powers on the radio and adjusts the volume.

### 7. Squelch knob

Adjusts the level at which the radio squelches or suppresses weak radio signals. To filter out weaker signals and background noise, turn the knob clockwise to increase the squelch level. To decrease the squelch level so you can hear weaker radio signals, turn the knob counter-clockwise.

### 8. Channel Selector

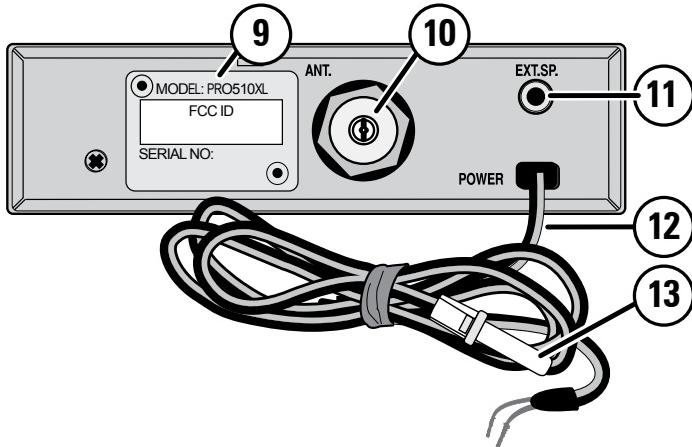
Selects which channel the radio will transmit or receive on.

---

*NOTE: FCC rules reserve Channel 9 for motorist assistance and other emergency communications. Channel 9 should only be used in situations where there is immediate danger to the safety of individuals or the protection of property.*

---

## Back



### 9. Model number label

Shows the radio model number, FCC ID number and serial number.

### 10. Antenna Connector

Connects to a male PL-259 external antenna cable (antenna sold separately).

### 11. External Speaker Jack

Connects to a  $\frac{1}{8}$ -inch (3.5 mm) external speaker (sold separately).

### 12. 12 Volt DC Power Cord

### 13. Fuse casing

## Microphone

### 14. Push-to-talk (PTT) button

Press and hold the PTT button to transmit on the selected channel. Release the button to listen for a response.

For the best sound quality, hold the microphone about 2 inches away from your mouth and speak in a normal voice.



---

*NOTE: Make sure you have read and understood part 95 of the FCC rules and regulations before using the transmitter.*

---

# INSTALLATION

## Connect the microphone

Align the microphone connector with the jack on the front of the radio. Push the connector in firmly and secure it with the locking screw.

## Connect the power

You can connect the radio to any standard 12 volt DC power source, with either a positive or negative ground. If you don't know whether your power supply uses a positive or negative ground, consult the manual for your power supply or contact the manufacturer.

---

*WARNING! DO NOT connect this equipment to a power supply if you are not absolutely certain of the grounding type!*

---

- 1) Make sure your power supply is turned off.
- 2) For power supplies with a NEGATIVE ground, connect the RED lead on the radio to the power supply's POSITIVE (+) pole, and connect the BLACK lead to the power supply's NEGATIVE (-) pole or to a neutral ground such as the chassis.  
OR  
For power supplies with a POSITIVE ground, connect the BLACK lead on the radio to the power supply's NEGATIVE (-) pole, and connect the RED lead to a neutral ground such as the chassis.
- 3) Turn on your power supply.
- 4) Turn the radio's **Volume** knob clockwise to power on the radio.

## Installing the mounting bracket

When choosing the location for the radio's mounting bracket, keep the following things in mind:

- ▶ Pick a location that does not block your view, interfere with your vehicle's controls, or hinder your driving.
- ▶ Make sure the radio and microphone are not in front of an airbag.
- ▶ Pick a solid surface that can support the weight of the bracket and the radio.
- ▶ Make sure there's enough room. (You may want to put the radio in the bracket when you're choosing where to install the bracket.)

Once you choose the location, use the included, self-tapping screws to attach the mounting bracket and the microphone bracket to your vehicle (you don't have to drill holes). Slide the radio into the bracket and use the included knobs to hold it at the preferred angle.

## Connecting an external antenna

You will need to purchase an antenna to operate the radio. However, Your Uniden dealer can help you select the antenna that is best for your needs. Consult the specifications in the back of this manual for detailed transmitter and antenna information.

There are two basic types of mobile CB antennas—full-length whips and loaded whips—with a wide variety of mounts to suit different vehicle locations.

- ▶ Choose an antenna that matches the specifications of this radio.
- ▶ Follow the manufacturer's installation instructions carefully.
- ▶ Tune your antenna using a Standing-Wave Ratio (SWR) meter: set the radio to channel 20, and adjust the antenna until the SWR is as close as 1:1 as possible.

---

**CAUTION:** Make sure the SWR is **less than 2:1** before using the radio. An SWR higher than 2:1 can damage the transmitter.

---

## OPERATION AND MAINTENANCE

### Basic operation

|                       |                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Turning the radio on  | Turn the <b>Volume</b> knob clockwise until the display backlight comes on.                                                                                                                                                                                                                                                                                  |
| Turning the radio off | Turn the <b>Volume</b> knob counter-clockwise until it clicks and the display backlight turns off.                                                                                                                                                                                                                                                           |
| Selecting a channel   | Turn the <b>Channel</b> knob clockwise to move up the channel list. Turn it counter-clockwise to move down the channel list.                                                                                                                                                                                                                                 |
| Changing the volume   | Turn the <b>Volume</b> knob clockwise to increase the volume; turn it counter-clockwise to decrease the volume.                                                                                                                                                                                                                                              |
| Transmitting          | <ul style="list-style-type: none"><li>– Tune the radio to the channel you want to transmit on, and listen to make sure the channel is clear.</li><li>– Press and hold the <b>PTT</b> button.</li><li>– Hold the microphone about 2 inches away from your mouth and speak in a normal voice.</li><li>– Release the button to listen for a response.</li></ul> |

---

**NOTE:** Make sure you read and understood part 95 of the FCC rules and regulations before using the transmitter.

---

### Maintenance

Every six to twelve months, check to make sure that...

- ▶ The Voltage Standing Wave Ratio (VSWR) is less than 2:1.
- ▶ All electrical connections are secure and free of corrosion.
- ▶ The antenna cable shows no wear or damage.

- All mounting screws are securely fastened.
- Inspect all screws and other mounting hardware.

## TROUBLESHOOTING

If your radio is not performing to your expectations, please try these simple steps. If these steps don't solve your problem, call the Uniden Customer Service Center.

| Problem:                          | Things to try:                                                                                                                                                                                               |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radio won't turn on<br>(no power) | <ol style="list-style-type: none"><li>1. Check the radio's power cord and all connections.</li><li>2. Check the fuse in the radio's power cord.</li><li>3. Check your vehicle's electrical system.</li></ol> |
| Poor reception                    | <ol style="list-style-type: none"><li>1. Adjust the squelch level.</li><li>2. Check the antenna, cable and connectors.</li><li>3. Check operation mode of the radio.</li></ol>                               |
| Background noise                  | <ol style="list-style-type: none"><li>1. Turn on the automatic noise limiter.</li><li>2. Adjust the squelch level.</li></ol>                                                                                 |
| Weak transmission                 | <ol style="list-style-type: none"><li>1. Check the antenna, cable and connectors.</li><li>2. Check the antenna grounding.</li><li>3. Check for corrosion on the connectors.</li></ol>                        |

### Service and repair information

- Technical information, diagrams and charts will be provided upon request.
- Service, repair, or alignment should only be attempted by a qualified and/or licensed radio technician.
- When ordering parts, it is important to specify the correct model number of this radio.
- It is the user's responsibility to make sure the radio is operating in accordance with the FCC Citizens Radio Service regulations at all times.

# SPECIFICATIONS

## GENERAL

|                       |                                                           |
|-----------------------|-----------------------------------------------------------|
| Channels              | 40 AM                                                     |
| Frequency Range       | 26.965 to 27.405 MHz                                      |
| Frequency Control     | Phase Locked Loop (PLL) synthesizer                       |
| Frequency Tolerance   | $\pm 0.005\%$                                             |
| Operating Temperature | -30°C to +50°C                                            |
| Microphone            | Plug in type, dynamic                                     |
| Input Voltage         | 13.8 V DC nom. (+ or - ground)                            |
| Current Drain         | TX full mod., 1.7A                                        |
| RX                    | with max. audio output, 1.7A                              |
| Size                  | 4-1/2" W x 6-3/4" D x 1-3/8" H                            |
| Weight                | 1 lb. 9 oz.                                               |
| Antenna Connector     | UHF, SO-239                                               |
| LED Meter             | Indicates relative RF output and received signal strength |

## TRANSMITTER

|                  |                              |
|------------------|------------------------------|
| Power Output     | 4 Watts                      |
| Modulation       | Class B amplitude modulation |
| Freq. Response   | 300-2500 Hz                  |
| Output Impedance | 50 ohms, unbalanced          |

## RECEIVER

|                              |                                                                               |
|------------------------------|-------------------------------------------------------------------------------|
| Sensitivity                  | 0.5µV for 10 dB; (S + N) /N typical (limit 1.0µV)                             |
| Selectivity                  | 6 dB @ 7kHz, 70 dB @ 10kHz typical                                            |
| Image Rejection              | 80 dB typical                                                                 |
| I.F. Frequency               | Double Conversion Superheterodyne<br>1st 10.692 MHz<br>2nd 450 kHz            |
| Automatic Gain Control (AGC) | less than 10dB change in audio output for inputs from 10 to 50,000 microvolts |
| Squelch                      | Adjustable; threshold less than 1µV                                           |
| Audio Output Power           | 7 watts max. into 8 ohms                                                      |
| Freq. Response               | 300 to 2000 Hz                                                                |
| Distortion                   | less than 10% at 4 watts, 1000Hz                                              |
| Internal Speaker             | 16 ohms, 3 watts round                                                        |

Specifications and features are subject to change without notice.

## FCC PART 15 COMPLIANCE INFORMATION

The antenna used for this radio must be properly installed and maintained and must provide a separation distance of at least 13.4 inches (34 cm) from all persons and must not be collocated or operated in conjunction with any other antenna or transmitter. Never transmit if any person is closer than the specified distance to the antenna.

Note that Uniden does not specify or supply any antenna with this transceiver. While a 0 dBi gain antenna is normal for a typical installation, the above limit applies to any antenna with up to 3 dBi gain.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications to this product or use of accessories not expressly approved by Uniden, or operation of this product in any way other than as provided in the Uniden Owner's Manual could void your authority to operate this product.

A complete Owner's Manual in French can be downloaded from <http://www.uniden.com/>.

## TWO-YEAR LIMITED WARRANTY

WARRANTOR: UNIDEN AMERICA CORPORATION ("Uniden")

ELEMENTS OF WARRANTY: Uniden warrants, for two years, to the original retail owner, this Uniden Product to be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

WARRANTY DURATION: This warranty to the original user shall terminate and be of no further effect 24 months after the date of original retail sale. The warranty is invalid if the Product is (A) damaged or not maintained as reasonable or necessary, (B) modified, altered, or used as part of any conversion kits, subassemblies, or any configurations not sold by Uniden, (C) improperly installed, (D) serviced or repaired by someone other than an authorized Uniden service center for a defect or malfunction covered by this warranty, (E) used in any conjunction with equipment or parts or as part of any system not manufactured by Uniden, or (F) installed or programmed by anyone other than as detailed by the owner's manual for this product.

STATEMENT OF REMEDY: In the event that the product does not conform to this warranty at any time while this warranty is in effect, warrantor will either, at its option, repair or replace the defective unit and return it to you without charge for parts, service, or any other cost (except shipping and handling) incurred by warrantor or its representatives in connection with the performance of this warranty. Warrantor, at its option, may replace the unit with a new or refurbished unit. THE LIMITED WARRANTY SET FORTH ABOVE IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO THE PRODUCT AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES OF ANY NATURE WHATSOEVER, WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow this exclusion or limitation of incidental or

consequential damages so the above limitation or exclusion may not apply to you.

**LEGAL REMEDIES:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is void outside the United States of America.

**PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY:** If, after following the instructions in the owner's manual you are certain that the Product is defective, pack the Product carefully (preferably in its original packaging). The Product should include all parts and accessories originally packaged with the Product. Include evidence of original purchase and a note describing the defect that has caused you to return it. The product should be shipped freight prepaid, by traceable means, to warrantor at:

Uniden America Service

743 Henrietta Creek Rd.

Roanoke, TX 76262

(800) 297-1023, 8 a.m. to 5 p.m., Central, Monday through Friday